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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,495	02/06/2004	Alain Schweitzer	1759.153	6630
23405	7590	08/09/2005	EXAMINER	
HESLIN ROTHENBERG FARLEY & MESITI PC 5 COLUMBIA CIRCLE ALBANY, NY 12203			CHAN, EMILY Y	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/773,495

Applicant(s)

SCHWEITZER ET AL.

Examiner

Emily Y. Chan

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. In reviewing the remarks filed on 6/1/05, the claim rejection under 35 U.S.C 112, first paragraph, as failing to comply with the enablement requirement has been withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (see Figs 1-2) in view of Fromson et al US Patent No. 4,442,494.

Regarding to claim 1, applicants' admitted prior art (see Fig. 1) disclose a device for monitoring tool wear and/or breakage for a machine tool as claimed, having a command module (B), a control system (A) for a tool drive motor (M) and a single module (CA) through which three supply phases ® for the motor (M) pass fully and means (D) for digital monitoring of tool wear (see page 2, lines 18-34 of the specification).

The difference between the applicant s admitted prior art (See Figs. 1 and 2) and the claimed instinct invention is: (1) that the single module (CA), the digital monitoring means (D), the command module (B) and control system (A) for a tool drive motor (M) of the prior art are separate devices whereas the claimed digital monitoring means (D)

Art Unit: 2829

is integral with the single module (CA); and (2) the applicants' admitted prior art fails to disclose a curve of the derivative of the power signal to detect the wear of the tool of the machine by comprising it to a reference signal and simultaneously using the power, an integral of the power and a derivative of the power to detect the defect of the machine operation.

As to (1) above, it would have been obvious to one of ordinary skill in the art to make integral of independent device into one module (see MPEP 2144.04 V. MAKING PORTABLE, INTEGRAL, SEPERABLE, ADJUSTABLE, OR CONTINUOUS).

As to (2) above, Fromson et al ('494) disclose a tool wear and tool failure monitoring system (see Fig. 8) and exclusively teach a curve of the derivative of the power signal (see Fig. 2, 33) to detect the wear of the tool of the machine by comprising (34) it to a reference signal (49) and simultaneously using the power (net power 31), an integral of the power (32) and a derivative of the power (33) to detect the defect of the machine operation.

Therefore, It would have been obvious to one of skilled in the art at the time the claimed invention was made to incorporate the teaching of Fromson et al ('494) into the applicants' admitted prior art for the expected benefit of instantaneous determination of the degree of wear of a particular tool operation with a given workpiece processing cycle as disclosed by Fromson et al ('494) (see Col. 1, lines 55-57).

With respect to claims 3-5, the applicants admitted prior art and Fromson et al ('494) do not disclose that the claimed control system (A) for a tool drive motor (M) is integral with the single module (CA) recited in claim 3, the claimed digital monitoring

Art Unit: 2829

means (D) is integral with command module (B) recited in claim 4 and the claimed command module (B), the control system (A) for a tool drive motor (M), the single module (CA) and digital monitoring means (D) are integral into one and same assembly recited in claim 5. However, it would have been obvious to one of ordinary skill in the art to make the plural independent devices integral into one and same assembly because making integral of plural parts or devices is generally recognized as being within the level of ordinary skill in the art (see MPEP 2144.04 V. MAKING PORTABLE, INTEGRAL, SEPERABLE, ADJUSTABLE, OR CONTINUOUS).

With respect to claims 6-7, the applicants' admitted prior art and Fromson et al ('494) 's reference are all directed to a tool or machine defect and machine operation with several tools on one and the same motor.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art in view of Fromson et al ('494) 's as applied to claim 1 above, and further in view of Klaus et al ('006).

Applicants admitted prior art and Fromson et al ('494) 's do not disclose that the electrical measurement and the means for monitoring the tool wear and breakage are galvanically and/or electromagnetically isolated.

Klaus et al ('006) disclose a protective device for an electric motor and exclusively teach that a sensor (1) and an evaluation unit (3-5) are mutually galvanically isolated. (See abstract and fig. 1).

It would have been obvious to one of skilled in the art at the time the claimed invention was made to incorporate the teaching of galvanically isolating between the

sensor and evaluation unit as taught by Klaus et al ('006) into applicant admitted prior art and Fromson et al ('494) 's device for the expected benefit of preventing a transmission of overvoltages from electrical measurement to the tool monitoring means as disclosed by Klaus et al ('006) (see abstract).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicants' admitted prior art (see Figs 1-2) in view of Fromson et al ('494) as applied to claims 1 and 3-7 above, and further in view of Ying-Chang US Patent No. 5,132,610.

Applicants' admitted prior art and Fromson et al ('494) do not disclose that the components comprise a first part and a second part, and the first part and the second part are mutually galvanically isolated.

Ying-Chang US ('610) discloses digitizing meter for measuring voltage and current (see Fig. 2) and exclusively teach a first part (1, 8) for acquisition of analog quantities of current and voltage and a second part (2-11) for amplification, shaping and digitization of the quantities. Moreover, Ying-Chang US ('610) teaches that the first part and the second part are isolated (see voltage isolating amplifier 2 and current isolating amplifier 9).

It would have been obvious to one of skilled in the art at the time the claimed invention was made to incorporate the teaching of the first and second parts as taught by Ying-Chang US ('610) into the applicants' admitted prior art device in view of Fromson et al ('494) for the expected benefit of high accuracy operation through digital integration, free from influence of temperature and environment as disclosed by Ying-Chang US ('610) (see Col. 1, lines 38-41).

Art Unit: 2829

5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicants' admitted prior art (see Figs 1-2) in view of Fromson et al ('494) as applied to claims 1 and 3-7 above, and further in view of Lightfoot et al US Patent No. 6,912,485.

With respect to claim 9, the applicants admitted prior art and Fromson et al ('494) do not disclose an electromagnetic screen inserted between the components and the digital monitoring means.

Lightfoot et al ('485) disclose an event monitoring system (see Fig. 6) comprising components (hub units 704) and digital monitoring means (detectors 700). Lightfoot et al ('485) exclusively teach that an electromagnetic screen is inserted between the components (hub units) and the digital monitoring means (detectors) (see Col. 15, lines 42-47 "The entire hub unit is electromagnetically compatibility shielded").

It would have been obvious to one of skilled in the art at the time the claimed invention was made to incorporate the teaching of the first and second parts as taught by Lightfoot et al ('485) into the applicants' admitted prior art device in view of Fromson et al ('494) for the expected benefit of reducing interference and noise as disclosed by Lightfoot et al ('485) (see Col. 15, line 43).

With respect to claim 10, Fromson et al ('494) disclose a microcontroller for digital monitoring (see Figs 3 and 8).

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Response to Amendment***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2829

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**VINH NGUYEN**  
**PRIMARY EXAMINER**  
A-U-2829  
08/05/05